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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,715	05/24/2004	Kuo-Hsing Cheng	11586-US-PA	3714

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JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER
MOON, SEOKYUN

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
04/01/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USA@JCIPGROUP.COM.TW
Belinda@JCIPGROUP.COM.TW

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>25 February 2009</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>8 and 9</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>8 and 9</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>24 May 2004</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☒ All   b) ☐ Some *   c) ☐ None of:
        1. ☒ Certified copies of the priority documents have been received.
        2. ☐ Certified copies of the priority documents have been received in Application No. _____.
        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   The Applicant's arguments with respect to newly amended claim 8 have been

considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

3.   **Claims 8** and **9** are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the written description requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed,

had possession of the claimed invention.

As to **claim 8**, the claim discloses [claim 8, last paragraph], "*a plurality of gate*

lines, wherein the rth gate line is **merely** *used for turning on all odd pixels in the jth and*

the $(j+1)^{th}$ pixel sets of the ith row of the pixels and all even pixels in the jth and the

$(j+1)^{th}$ pixel sets of the $(i+1)^{th}$ row of the pixels, where r is a positive integers".

According to the above claim limitation, the rth gate line is used to drive **only** odd pixels

in the jth and the $(j+1)^{th}$ pixel sets of the ith row of the pixels and **only** even pixels in the

j^{th} and the $(j+1)^{th}$ pixel sets of the $(i+1)^{th}$ row of the pixels. However, since there are

more than just two pixel sets, i.e. the j th and the (j+1) th pixel sets, in the i th row, the r th gate line is used to drive more than just two pixel sets, i.e. the j th and the (j+1) th pixel sets. Please refer to drawing 1 provided below, which is equivalent to figure 3 of the instant application.
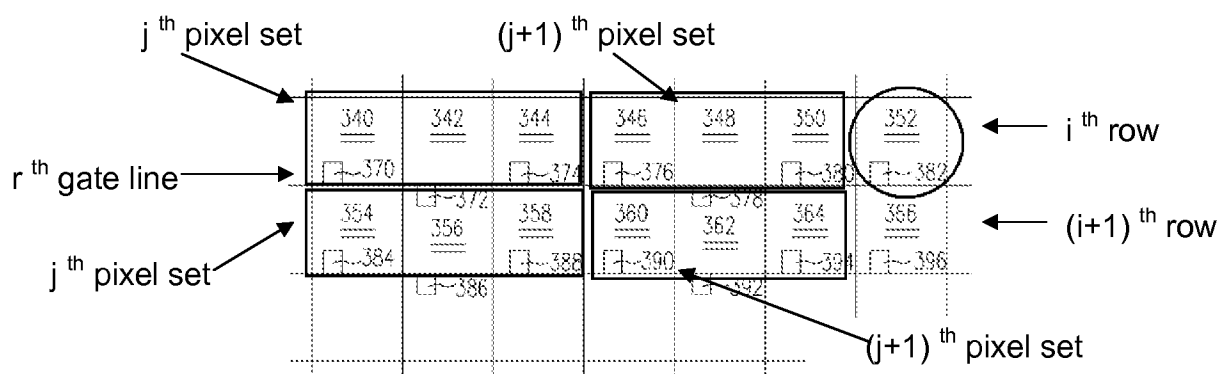
Drawing 1

According to drawing 1, r th gate line is used to drive not only odd pixels in the j th and the (j+1) th pixel sets of the i th row of the pixels and even pixels in the j th and the (j+1) th pixel sets of the (i+1) th row of the pixels, but also other pixels (ex. circled pixel). Accordingly, Examiner respectfully submits that the above claim limitation is inconsistent with the specification of the instant application.

For further examination purpose, the above claim limitation will be interpreted as, "*a plurality of gate lines, wherein the r th gate line is used for turning on all odd pixels in the j th and the (j+1) th pixel sets of the i th row of the pixels and all even pixels in the j th and the (j+1) th pixel sets of the (i+1) th row of the pixels, where r is a positive integers*", as best understood by Examiner.

As to **claim 9**, the claim is rejected as being dependent upon a base claim rejected under 35 U.S.C. 112, first paragraph.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   **Claims 8-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee

(US 2005/00083279) in view of Noguchi (US 7,084,849).

As to **claim 8**, Lee [drawing 2 provided on page 5 of this Office Action, which is

equivalent to Lee's figure 3] teaches a pixel array, comprising:

M*N pixels, each row of the pixels having a plurality of pixel sets, wherein

the jth and the $(j+1)^{th}$ pixel sets of the ith row of the pixels have driving

polarity (Note that any of the pixel sets included in the display inherently has one of

positive and negative driving polarity), wherein M, N, i, and j are positive integers;

the jth and the $(j+1)^{th}$ pixel sets of the $(i+1)^{th}$ row of the pixels have

driving polarity;

the jth pixel set of the ith row of the pixels and the jth pixel set of the $(i+1)$

th row of the pixels have driving polarity; and

the $(j+1)^{th}$ pixel set of the ith row of the pixels and the $(j+1)^{th}$ pixel set of

the $(i+1)^{th}$ row of the pixels have driving polarity;

a plurality of data lines for respectively providing a corresponding pixel voltage,

and

a plurality of gate lines, wherein the r th gate line is used for turning all odd pixels in the j th and the (j+1) th pixel sets of the i th row of the pixels and all even pixels in the j th and the (j+1)th pixel sets of the (i+1)th row of the pixels, where r is a positive integer (Note that as shown on drawing 2 provided below, all of the pixels sets of i th row and (i+1)th row are connected to the r th gate line. Accordingly, all pixels in the j th and (j+1) th pixel sets of the i th row of the pixels and all pixels in the j th and the (j+1) th pixel sets of the (i+1) th row of the pixels are turned on by the scanning signal traveled through the r th gate line).

i th row

r th gate line

(i+1)th row

j th pixel set

(j+1) th pixel set

j th pixel set

(j+1) th pixel set
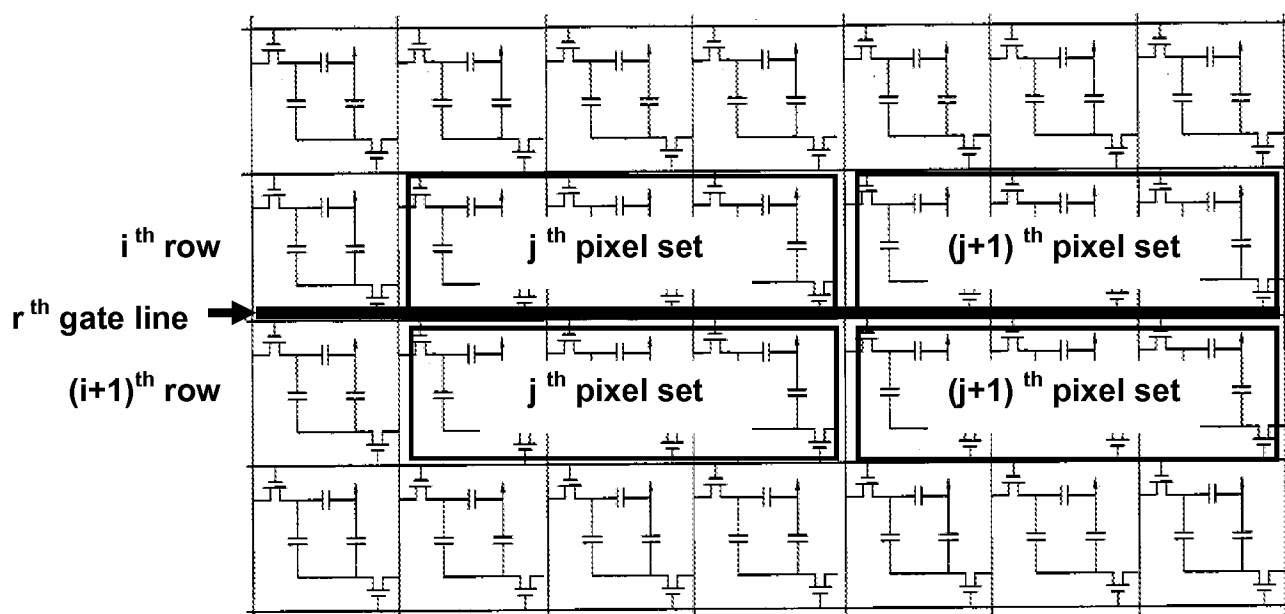
Drawing 2

Lee does not expressly teach anything regarding the relationship between the driving polarities applied to the pixels sets of the rows of the pixels. In other words, Lee does not expressly teach what type of a polarity driving scheme is used to drive the pixels of the pixel array.

However, Noguchi teaches a concept of using three-dots polarity inversion method to drive a liquid crystal display panel [col. 12 lines 32-36], wherein the three-dots polarity inversion method provides a plurality of voltages having substantially same phase to a plurality of pixel electrodes of the pixels of a pixel set (the pixel set comprising R, G, B pixels) and provides at least two voltages with phases substantially opposite to each other to the pixel electrodes of the pixels of two of the adjacent pixel sets respectively.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the driving method of Lee to use three-dots polarity inversion method, as taught by Noguchi, in order to prevent changes on the polarizations of liquid crystals caused by applying data voltages having same polarity to the pixels for a long time period.

Lee as modified by Noguchi [drawing 3 provided on page 7 of this Office Action, which is equivalent to the pixel array of Lee to which Noguchi's three-dots inversion method is applied] teaches that,

the jth and the $(j+1)^{th}$ pixel sets of the ith row of the pixels substantially have different driving polarity, wherein all of pixels in the jth pixel set of the ith row of the pixels substantially have same driving polarity, and all of pixels in the $(j+1)^{th}$ pixel set of the ith row of the pixels substantially have same driving polarity;

the jth and the $(j+1)^{th}$ pixel sets of the $(i+1)^{th}$ row of the pixels substantially have different driving polarity, wherein all of pixels in the jth pixel set of the

(i+1) th row of the pixels substantially have same driving polarity, and all of pixels in the

(j+1) th pixel set of the (i+1) th row of the pixels substantially have same driving polarity;

       the j th pixel set of the i th row of the pixels and the j th pixel set of the (i+1)

th row of the pixels substantially have different driving polarity;

       the (j+1) th pixel set of the i th row of the pixels and the (j+1) th pixel set of

the (i+1) th row of the pixels substantially have different driving polarity; and

       the polarity of the pixel voltage provided by the k th data line is opposite to

the polarity of the pixel voltage provided by the (k+1) th data line, where k is a positive

integer.
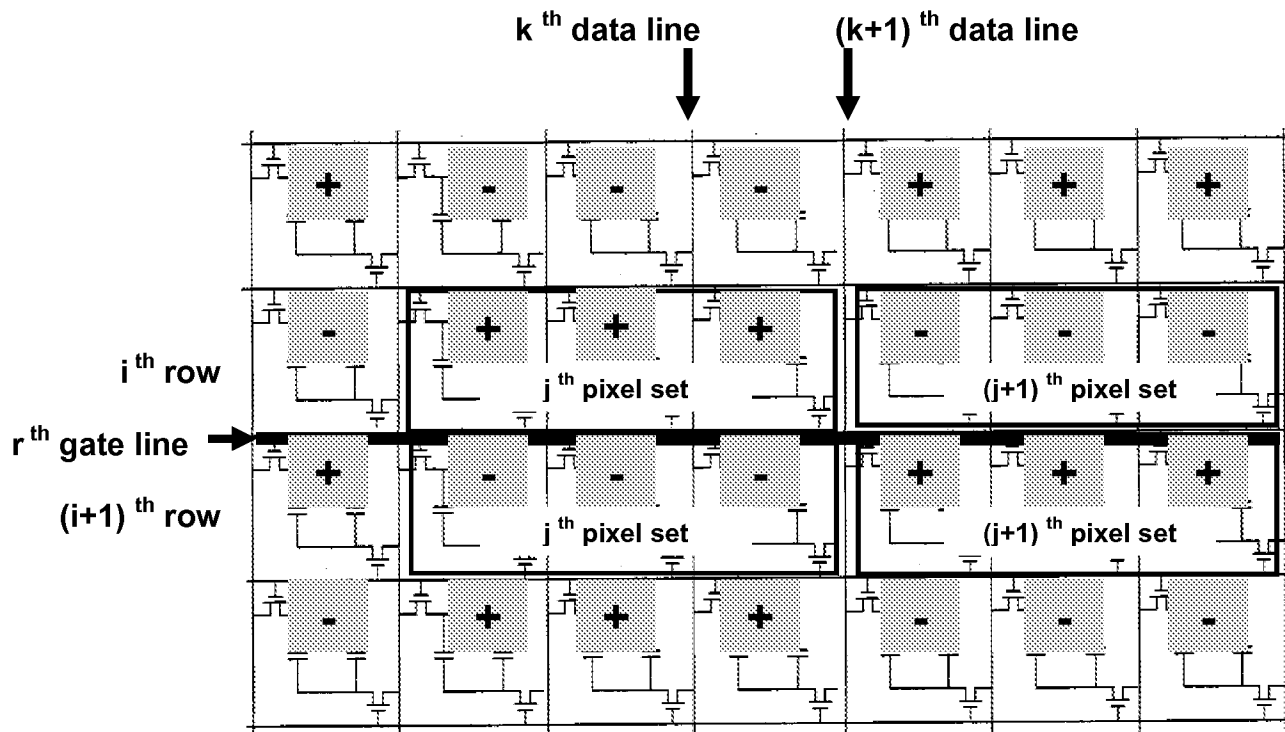
Drawing 3

As to **claim 9**, Lee [drawings 2 and 3, provided above] teaches that each pixel set comprises 3 pixels or a multiple of 3 pixels.

Conclusion

6.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEOKYUN MOON whose telephone number is (571)272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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March 23, 2009
/S. M./
Examiner, Art Unit 2629

/Sumati Lefkowitz/
Supervisory Patent Examiner, Art Unit 2629
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